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ABSTRACT

This paper presents further evidence bearing on the hypothesis that the academic performance of students is associated more closely with the friendliness or unfriendliness of interracial contact than with the sheer opportunity for interracial contact. In addition, evidence is presented concerning the relationship of interracial contact and of academic performance to certain subjective outcomes: acceptance of academic goals, fear, anger, and expectance of success. These have been hypothesized to intervene between interracial contact and academic outcomes. The data come from a large scale study of interracial contact in twelve public high schools in Indianapolis, Indiana. Following extensive interviews with students, teachers, and administrators, a two-part student questionnaire was prepared. Data concerning racial composition of classes, ability grouping, grades, and achievement scores were obtained from school records. The results of this study are consistent with those of most previous studies in showing that racial mixing of students had only small effects on the academic performance of black students. The results also indicate that the academic performance of white students tends to be somewhat poorer in classes which are heavily black. Results of this study also indicate that, contrary to the hypothesis advanced by some writers, the nature of interracial contact; either in grade school or in high school had almost no effect on academic outcomes in high school. The results of this study suggest that the small and inconsistent effects which interracial contact has been found to have on black students' academic performance are not likely to be enhanced by increasing the friendliness of that contact. In fact, the results suggest that the racial composition of classes, while not having large effects, may be more important than the friendliness or unfriendliness of contact between the races. (Author/AM)

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CLASS RACIAL COMPOSITION, THE FRIENDLINESS OF INTERRACIAL CONTACT, AND STUDENT PERFORMANCE

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INTERRACIAL CONTACT AND STUDENTS ACHIEVEMENT*

About a decade ago, data from the national Equal Educational Opportunity survey suggested that attendance at majority-white schools might raise the academic achievement of black students (Coleman, et al., 1966). However, a decade of research following the "Coleman Report" has shown little consistent evidence that the racial proportions of schools or classes affects the academic achievement of students--either black or white (St. John, 1975).

Some writers have suggested that positive social relationships between black and white students, rather than mere physical mixing of the races, may be necessary in order for achievement gains to occur (Katz, 1968; St. John, 1975:40; Cohen, et al., 1972). One of these writers, Irwin Katz, has specified some of the social-psychological mechanisms through which social relations with white peers may affect the performance of black students. Katz suggests that friendly relations with white peers may lead black students to accept the academic norms of the Whites--which, presumably, are more oriented toward academic goals. He argues, further, that white hostility may produce fear and anger among Blacks, which may interfere with and inhibit academic performance. Katz also emphasizes the importance of the expectancy of success for motivation and performance and discusses such expectancy as a function of the extent to which Whites are a salient group for judging performance.[1] However, he does not relate Blacks' expectancy of success to their social relationships with Whites.

The theoretical analysis of the possible effects of interracial contacts on motivation and performance may be applied also to white students--although Katz and most others have not done this. If friendly contact with Whites having positive norms concerning school success will raise the motivation of black students, one might wonder whether extensive friendly contact with Blacks, presumably having less positive norms, will lower the motivation and performance of white students. If hostility and "social

threat" from Whites will lower the performance of Blacks, will hostility from Blacks--and the consequent anger and fear--lower the academic performance of Whites? And will the presence of a (usually) poorer-performing group of black students affect the expectancy of success, and thus the motivation and performance of white students?

Despite the widespread attention given to Katz's hypotheses, there has been little work done to test the association between the nature of interracial contact, on the one hand, and students' motivation and performance, on the other hand. Cohen, et al. (1972) reanalyzed the EEO survey data to investigate the contribution of school interracial climate to minority achievement, but found that, with racial composition controlled, the range of variation was insufficient to draw any conclusions. A rare study relevant to this issue was conducted by Lewis and St. John (1974). They found the grade averages of sixth-grade black students, but not their standardized achievement scores, related to their popularity with white classmates.

In this paper, we present further evidence bearing on the hypothesis that the academic performance of students is associated more closely with the friendliness or unfriendliness of interracial contact than with the sheer opportunity for interracial contact. In addition, we present evidence concerning the relationship of interracial contact and of academic performance to certain subjective outcomes--acceptance of academic goals, fear, anger, and expectancy of success--which have been hypothesized to intervene between interracial contact and academic outcomes.

The data come from a large-scale study of interracial contact in all of the public high schools of Indianapolis, Indiana. Since they include information about racial proportions and about the friendliness of interracial contact, both in grade school and in high school, they permit us to compare the effects of each aspect of contact. We also have a variety of data (on student IQ, ability group, parent education, etc.), plus a large sample, which permit us to control for possible spurious relationships between interracial contact and student achievement. The frequent lack

of such controls has been one of the major deficiencies of such previous research in this area (St. John, 1975). The availability of several measures of academic performance--effort, grades, and standardized achievement scores--permits us to compare the relation between interracial contact and several measures of academic performance. Finally, the fact that our sample includes both black and white students permits us to assess the effect of interracial contact on students of both races.

Our study also has some limitations. The major one is the fact that it is primarily --though not entirely--cross-sectional. This limitation is mitigated by several factors: (1) In some instances, one of our measures is prior in time (or refers to a prior period), which aids in making causal inferences; (2) In some instances, the use of control variables aids in inferring causal direction; and (3) In those instances where no relationship is found, the question of causal direction is moot. We will discuss questions of causal inference further as the study methods and results are presented and discussed.

Some limitations in the scope of the present paper may also be noted. First, this paper focuses on the interracial contacts and academic performance of individual students; the associations of school-level variables (such as the overall racial composition or the average degree of interracial friendliness in the school) with average academic performance are considered elsewhere (Davidson, et al., 1975). Secondly, the analyses involving achievement scores are limited to total achievement scores. Separate analyses of sub-scores--such as Language Arts, Social Studies, Mathematics, and Science --are planned at a later date.

Methods

The data on which this paper is based were gathered at twelve public high school locations in Indianapolis, Indiana. The racial composition of the student bodies at these school sites ranged from 1 percent black to over 99 percent black, with the median

black enrollment being 36 percent. (For further descriptions of schools, see Patchen and Davidson, 1973, Chapter 3.)

Following extensive interviews with students, teachers, and administrators, a two-part student questionnaire was prepared. In each class (Freshman, Sophomore, etc.) of each school, a sample of about 60 black students and 60 white students to be given the questionnaire was selected systematically from enrollment lists.[1A] When there were fewer than 60 students of a given race in a given class, all of the students in that category were included in the sample. Questionnaires were administered in the Spring of 1971 to students in group sessions in a large room at each school. Separate forms were given to black students and to white students (identified visually); these forms were essentially identical except that the terms "black" and "white" were transposed to fit the appropriate case. The questionnaires were administered by the investigators and their assistant(s), comprising a bi-racial "team", and students were assured that their answers would be completely confidential.

Of the total number of black students selected in the sample, 75.1 percent (N=1,986) acceptably completed Part I of the questionnaire, 74.4 percent (N=1,969) acceptably completed Part II, and 66.9 percent (N=1,769) acceptably completed both parts. Among white students, the comparable rates and numbers for acceptable completion are: Part I, 82.8 percent (N=2,347); Part II, 80.9 percent (N=2,292); both parts, 75.7 percent (N=2,146).[1B]

Data concerning racial composition of classes, ability grouping, grades, and achievement scores were obtained from school records.

Measures. Detailed descriptions of most of the measures used in this paper are presented elsewhere (Patchen and Davidson, 1973; Patchen, 1975). Following is a brief description of the principal measures.

A. Academic Performance

1. Effort Toward Academic Goals. Score reflects: a) the amount of time the student spent on homework during the semester, based on his report of time spent daily; minus b) estimated time lost from academic work during the semester as a result of being absent from school, being late to class, missing a class without permission, not completing assigned homework, and being called to a disciplinary "conference" with a teacher. Information about the frequency of these events was obtained from the student.[1C]

2. Current Semester Grades. Scores were assigned to grades (obtained from school records) as follows: A=8; B=6; C=4; D=2; F=0. Each score was weighted by the number of credits given for the course. Final grades were obtained at the end of the semester in which data on interracial contact were obtained.

3. Achievement Score. A composite score derived from student's scores on eleven tests of the Metropolitan Achievement Test battery (Durost, et al., 1964). The percentile scores, based on national norms, first were converted to stanine (normalized) scores to make the scores for different tests more comparable. An average stanine score in each of the four major subject areas (Language, Social Studies, Mathematics and Science) was then computed and, finally, an average score for all four subject areas was computed.

Students took achievement tests toward the end of their sophomore year of high school. Students who were Freshmen at the time of our questionnaire administration took achievement tests the following year and these scores were made available to us. Achievement scores were used in these analyses only for students who were Freshmen or Sophomores at the time questionnaires were administered. Juniors and Seniors are omitted primarily because their achievement was measured one or two years prior to the measurement of their interracial contacts in high school.

B. Interracial Contacts

1. Racial Composition of High School Classes. From school records we computed the proportion of black students in each class for which credit was given during the Spring 1971 semester (e.g., English 1, 2nd period, School 1.). Then the average racial composition in the classes attended by each student was computed.[2]

2. Friendly Interracial Contact: High School. Average frequency with which student reported each of nine types of friendly interaction with other-race students during the current semester--e.g., did school work together, did things together outside of school. Items were weighted by intimacy of contact.

3. Unfriendly Interracial Contact: High School. Average frequency with which student reported each of eleven types of unfriendly contacts with other-race students during the current semester--e.g., was called bad names, was pushed or hit. Items were weighted by seriousness of harm inflicted.

4. Racial Composition of Grade School Classes. Student was asked to list every grade school he/she attended and the grades attended at each. Then, for each school, the student was asked to check one of six categories showing the racial proportions in his classes. A score was computed for each student by averaging the racial composition scores of classes in all grade schools he/she attended, weighting the score for each school by the number of years attended.

5. Friendliness of Interracial Contact: Grade School. Student was asked "how many (other-race) people you have gotten to know" in a number of settings, including grade school (none; one or two; some; many). For each setting, student was asked also to indicate "what kind of experiences (if any) you have usually had with (other-race) people there" (very friendly; fairly friendly; not too friendly; unfriendly). Numerical scores were assigned to responses to each question and the score for friendliness of contact was multiplied by the score for the amount of interracial acquaintance.

C. Subjective Reactions

1. Educational Aspirations. "How far would you like to go in school?" (six response categories).

2. Occupational Aspirations. If student indicated he had thought about the "kind of work you would really like to do in your life," he was asked "What kind of work do you have in mind?" Written response was coded into four prestige categories (Hodge, Siegel and Rossi, 1964).

3. Importance of Academic Goals. Sum of student's ratings of how important to him were the following: my getting good grades; my getting a good education; my being able to go to college (very important, fairly important, not too important).

4. Perceived Chance to Reach Educational Goal. "How good would you say your chances are to go as far in school as you would like?" (five response categories).

5. Perceived Chance to Reach Occupational Goal. "What do you think your chances are of getting the kind of job you mentioned..." (five response categories).

6. Relative Anger at Other Race. Reported frequency (six categories) that other-race students "do things that make me angry," as compared to frequency of anger at same-race students.

7. Relative Fear of Other Race. Reported frequency (five categories) with which student reported thinking "that some (other-race) students might hit or attack me," compared to frequency of such thoughts about same-race students.

Control Variables. In studying the associations between interracial contact variables and academic outcomes, we wished to control for the effects of other variables which might spuriously increase, or suppress, the real relationships. We inspected the correlations between a fairly large number of variables which might be related both to interracial contact and to academic outcomes (see Patchen, 1975). Variables for which the pattern of associations did not require their use as controls included:

number of children in family; family composition (e.g., father absent); family concern about student's education and occupation; family concern about schoolwork; time spent helping family; and time spent on a job.

Variables for which the pattern of correlations with interracial contacts and academic performance indicated the desirability of their use as controls, for one or more associations, are the following:

1. IQ Score. For the great majority of students, these are scores on the California Test of Mental Maturity, taken during the fall semester of the eighth grade. Scores for a small number of students are based on other IQ tests, almost always taken in the sixth grade.

2. Sex. Reported by student and checked against school records.

3. Unfriendly Contacts with Same Race. Average frequency with which student reported getting into physical fights or into arguments with same-race schoolmates (based on three items).

4. Parents' Education. The amount of school completed by each parent was reported by the student. Numerical scores were assigned and, where two parents were present, these scores were averaged.

5. Being in Academic Program. Juniors and Seniors were classified according to their report of whether they were enrolled in the Academic (college-preparatory) program or in another program (General, Vocational, or Fine and Practical Arts). Freshmen and Sophomores (for whom formal enrollment in programs had just been ended) were classified as being (informally) in the Academic program if they indicated that they planned to take during high school "academic-type courses especially." Freshmen and Sophomores who indicated that they planned to take "general" courses, "vocational-type" courses, or "fine and practical arts" courses especially were classified as being in non-Academic programs.[3]

6. Ability Group Score. On the basis of school records of the classes taken that semester, each student was scored as falling in one of the following categories: 1) two or more slow classes; 2) one slow class; 3) all regular classes, or (rarely) both slow and accellerated classes, 4) one accellerated class; 5) two or more accellerated classes.

7. Participation in School Activities. Number of athletic teams, musical groups, publications, clubs, or other extra-curricular activities in which student reported participating at present school.

8. Evaluation of Teachers. Average rating by student of the proportion of teachers (six categories from "all" to "none") whom he had in present school who fit each of thirteen evaluative descriptions: e.g., "understand students like me;" "are too strict in class;" "make class interesting."

The associations of each of the eight "other" variables listed immediately above, with the interracial contact variables and with the academic outcomes, are shown in Table 1. These associations may reflect, at least in part, the direct effects of the "other" variables. As a result, the associations between interracial contact and academic outcomes may be spuriously inflated by their being affected by the same other variables. Therefore, controlling the interracial contact-academic outcome associations for the effects of these other variables is necessary.

(Insert Table 1 about here)

However, in some instances, the use of other variables as controls may tend to underestimate the true extent of the relationship between interracial contact and academic outcomes. One reason is that the control variable may itself be influenced by interracial contact and/or by academic outcomes. For example, while being in a certain ability group may affect effort and grades, effort and grades in previous semesters (probably correlated with current levels) may have affected placement in an

ability group. The problem of control variables being affected by interracial contact or academic outcomes is not applicable to IQ scores, to sex, and to parents' education, since these control variables pre-date either the interracial contact or the academic outcomes. The problem also is less applicable to achievement scores than to effort or grades as outcomes. This is because achievement scores (for Freshmen and Sophomores) were obtained toward the end of the Sophomore year after such control variables as ability group, academic program intentions, and participation in activities had already been set.

Another reason why applying controls may underestimate true associations is that interracial contact and a control variable may jointly explain some of the variance in academic outcomes. For example, being male and having unfriendly interracial contact may jointly explain some of the variance in achievement.

Overall, while it is necessary to use control variables to reduce spuriously strong associations, the reader should keep in mind that some of the associations shown after controls have been applied may underestimate the true associations.

We have applied controls selectively, as appropriate, in order not to unnecessarily reduce the number of cases on which the analyses are based. When analyzing the associations between academic outcomes and interracial contacts in grade school, generally only those two control variables present prior to grade school (parents' education and sex) were deemed appropriate for use.

Analysis Methods. In studying the relations of interracial contact and academic outcomes, we have used correlation and partial correlation analysis in most cases. Correlation techniques permit utilization of the full range of our data and computer programs for partial correlation permit the easy application of various sequences and combinations of controls. However, correlation analysis assumes linear relations between the variables and, in some cases, preliminary analyses indicated that the

relations were non-linear.[4] In these instances, we have converted the predictor into a nominal variable (i.e., into categories) and used a combination of analysis of variance and multiple classification analysis.

The use of two different analysis techniques introduces some variation in the measures of association between variables. However, the square of the correlation ratio (eta) or adjusted correlation ratio, (beta), derived from MCA, may be interpreted in the same way as the r^2, derived from correlation analysis--i.e., as the proportion of variance explained by a predictor.

Results

We examine first the associations between the amount and nature of interracial school contact and each of the academic outcomes.

Racial Composition of High School Classes. Inspection of the associations between the racial composition of classes and academic outcomes indicated that they are generally not linear. Therefore, correlation analysis was not appropriate. Instead, analyses of variance, together with multiple classification analyses, were used to study these associations.

Figure 1 shows the relationships between the racial composition of students' classes and their academic effort, adjusted for the effects on effort of IQ, ability group, and program. For students of both races, effort scores differed significantly among groups of students in classes with different racial proportions. For black students, effort was generally higher when Blacks were a minority (up to 30 to 40 percent) in their classes and lower when the average proportion of Blacks was larger. However, a deviation from this general picture occurs for those Blacks whose classes averaged over 90% Black; effort among these black students was relatively high, though not quite as high as for Blacks attending classes with the largest proportions of Whites.[5]

(Insert Figure 1 about here)

Figure 1 also shows that, among Whites, effort was highest among those in classes having up to between 20 to 30 percent Blacks. As the proportion of Blacks rose above this level, the reported effort of Whites generally declined steadily. However, for the relatively small number of Whites in classes averaging over 70 percent Black, effort was close to average for all Whites.

In general, the curves for Blacks and for Whites in Figure 1 are rather similar. Effort was highest for both groups in predominantly white classes, declines to a low point where classes were between half and two-thirds Black, but then rose to a moderate level in the most heavily black classes. Among both races, the proportion of variance in effort scores explained uniquely by racial proportions is very small (about 2 percent).

Figure 2 shows the relation between grades and the racial composition of classes, separately for black and white students, after grades have been adjusted for the effects of IQ, program, and ability group. For both races, average grades differed significantly among students in classes with different racial compositions. For Blacks, grades were lowest when Blacks comprised a relatively small minority in classes (up to 20 to 30 percent); rose fairly steadily as the proportion of Blacks increased up to about three-quarters; and fell back close to average when Blacks constituted over 80 percent. Among Whites, for whom grades are generally higher than for Blacks, grades were relatively low among students in classes with few (under 20 percent) Blacks, rose as the proportion of Blacks increased to almost half, and then fell to a relatively low level in predominantly black classes.

(Insert Figure 2 about here)

The curves relating grades to class racial composition are similar for black students and white students in some respects. For both races, grades generally increased as the proportion of Blacks increased from very low to moderate percentages and, for

both races, grades declined again toward the upper range of percent Black. The main differences (aside from the general level of grades) was that white grades declined after the point of a black majority (and especially where their classes averaged two-thirds or more Black) while black grades did not decline somewhat until their classes were almost all Black. While the range of average grades for each race varied fairly widely (about half a letter grade) for students in classes with different racial proportions, the proportion of total variance in the grades of each racial group which is explained uniquely by class racial composition is small (under 3 percent for each race).

Figure 3 shows the relation between the racial composition of students' classes and achievement scores, after the achievement scores have been adjusted for the effects of IQ, ability grouping, program, and (for Whites) evaluation of teachers. Since achievement scores for Freshmen and for Sophomores were collected in different years, the associaitons first were examined separately for each class. Among Whites, there was a very similar pattern of association for students in the two classes; therefore, these data are presented together, for simplicity and to increase the Ns. Inspection of the separate curves for black Freshmen and black Sophomores indicated a different pattern of relation for the two classes and so these data are shown separately.

(Insert Figure 3 about here)

Among black Freshmen, the differences in achievement scores among students with differing class racial compositions are of marginal statistical significance (after adjustments for controls). However, there was a fairly steady decline in achievement scores as the proportion of Blacks in classes increased. For black Sophomores, among whom differences in achievement across racial composition categories are also of marginal significance, the pattern is much less regular. Achievement scores tended to decline as the proportion of Blacks in classes increased up to where classes averaged two-thirds Black. But in the most heavily black classes (about 75% or more) black achievement scores rose again.

Among Whites, differences in achievement scores among those in classes with different racial compositions reach statistical significance. While not completely linear, the general pattern was for some decline in achievement scores as the proportion of Blacks in classes increased. However, the amount of variance in white achievement scores explained uniquely by the racial proportion of classes is very tiny (about 1 percent).

Friendly Contacts in High School. Next we consider the associations between the measures of academic performance and the amount of friendly interracial contact which students were experiencing in high school. Inspection of the associations between friendly contact and the performance variables indicates that these associations are essentially linear. Therefore correlation analysis is appropriate with these data.[6]

(Insert Table 2 about here)

The results of these analyses (see Table 2) show first that, for Blacks, there is a very small but significant zero-order correlation between friendly contact with Whites and greater academic effort. For a subsample for whom data on several control variables are available, this association remains significant, though tiny, when either IQ or evaluation of teachers is controlled. The association becomes non-significant when both of these controls and/or participation in activities are used. Among white students, there is essentially no relation between friendly interracial contact and effort, with or without appropriate controls.

With respect to grades, there is no significant zero-order association between the friendly interracial contact reported by black students and their grades. The association remains non-significant when either IQ, or evaluation of teachers, or participation in activities is controlled; when all three controls are applied together, there is a very small significant negative association (more friendly contact, lower grades).

Among white students, as for Blacks, there is very little association between friendly interracial contact and grades. The zero-order correlation is close to zero and non-significant. The association remains tiny and non-significant when controls are applied in turn for IQ, program, and parents' education. When these controls are applied in combination, or when participation in activities is controlled, there is a statistically significant, but very tiny, negative correlation (more friendly contact, lower grades).

Overall, then, for both black students and white students, there was little overall association between interracial contact and grades but there is some indication of a very small negative association when other relevant variables are controlled.

Friendly interracial contact in high school also had little association with the achievement scores of either Freshmen and Sophomores. For Blacks, there is no significant correlation, either for Freshmen or Sophomores, between friendly contact with white schoolmates and scores on the achievement tests taken as Sophomores. When the relationships are controlled, for IQ, for program, for activities, for evaluation of teachers, for sex (for Freshmen), or for combinations of the controls, the correlations remain non-significant.

For Whites, the zero-order correlations between friendly interracial contact and achievement scores, though also quite small, are higher than those for Blacks, positive, and, for Sophomores, statistically significant. However, when these associations are controlled for IQ, or for parents' education, or for a combination of these variables plus ability groups and activities, the correlations become non-significant both for white Freshmen and white Sophomores. Thus, the small positive association between friendly contact and achievement for Whites appears to be due to the fact that more academically able white students and those of higher social class background, had more friendly relations with black schoolmates (see Patchen and Davidson, 1973).

Overall, then, the results show very little association--for students of either race--between the amount for friendly interracial contact and any of the academic performance outcomes--effort, grades, or achievement scores.[7]

Unfriendly Contacts. To what extent are academic outcomes related to the amount of unfriendly interracial contact which students had in high school? Inspection of these relationships indicate that they do not deviate substantially from linearity; therefore correlation analyses are appropriate.

As was the case with friendly interracial contact, results indicate that the amount of unfriendly interracial contact in which students engaged generally had little, if any, effect on their academic performance (see part B of Table 2). With respect to effort, more unfriendly contact with other-race students had a small negative correlation with effort, for students of both races. However, when these correlations are controlled for other variables which may affect both unfriendly contact and effort, the correlations become very tiny and, in some instances, not statistically significant.

With respect to grades, there is a tendency for more unfriendly interracial contact to be associated with lower grades, among students of both races and especially for Blacks. Significant, though very small, negative associations persist when the relationship is controlled, in turn, for evaluation of teachers, ability group, unfriendly contact with students of the same race, IQ (for Blacks), and sex (for Whites). However, when the controls are applied simultaneously, the correlations decline to near-zero and non-significance.

With respect to achievement scores, the zero-order correlations show a tendency for more unfriendly interracial contact to be associated with lower achievement scores. Among black Freshmen, the zero-order correlation is very small and not statistically significant. Among black Sophomores, the zero-order correlation is significant but the correlation becomes very small and non-significant when either IQ or ability group, or a combination of the two, is controlled.

Among Whites, (both Freshmen and Sophomores), there are small statistically significant, negative zero-order correlations between unfriendly interracial contact and achievement scores.[8] However, the correlations decline to below statistical significance when controlled, in turn, for ability group, for evaluation of teachers, for IQ (Freshmen), and when controlled simultaneously for these variables.

Overall, the results indicate that there was a tendency for those students of either race who had more unfriendly interracial contact to be lowest on all three academic outcomes--effort, grades, and achievement scores. However, these associations are generally quite small and generally disappear when controls for students' ability, evaluation of teachers, unfriendly contacts with ones <u>own</u> race--or some combination of these variables--are applied.

<u>Racial Composition, Grade School</u>. Inspection of the associations between academic outcomes and the reported racial composition of the student's grade school classes indicate no substantial deviations from linearity. Therefore, correlation analysis is appropriate.

Results of these analyses show, first, no significant correlations between academic effort in high school and the reported racial composition of the student's grade school classes (see section C of Table 2). This is true for both black students and white students. Controls on parents' education and sex are not necessary (see Table 1) and do not change the results when applied.

With respect to grades, black students who reported a greater proportion of Whites in their grade school classes tended to have slightly lower grades in high school than other Blacks. This correlation is very small but statistically significant. Controls for sex and parents' education are not necessary here (see Table 1) and, in any case, do not affect the correlation when applied. For white students, there is no significant correlation between grades and opportunity for interracial contact in grade school, with or without a control for parents' education.

Achievement scores for black Sophomores tended to be lower among those who had a greater proportion of Whites in their grade school classes. For black Freshmen, on the other hand, there is no significant association between achievement scores and racial composition of grade school classes. [Controls for sex or parents' education are not needed in these cases (see Table 1).] Among Whites, the results concerning achievement scores are inconsistent. Among white Freshmen, more opportunity for contact with Blacks in grade school has a small correlation with lower achievement scores in high school. This association is not changed when parents' education is controlled. However, among white Sophomores, more opportunity for contact with Blacks in grade school has a very small but statistically significant positive correlation with achievement scores when parents' education is controlled.

Overall, these results show only very small and sometimes inconsistent associations between the reported racial composition of grade school classes and academic outcomes in high school, among students of either race.

Nature of Interracial Contact in Grade School. The relations between academic outcomes and the nature of interracial contacts in grade school are generally linear and so correlation analyses are again appropriate. [No controls for sex or parents' education are needed because these variables do not have appreciable correlations with both the friendliness of grade school contact and academic outcomes (see Table 1).] Correlation analyses show essentially no association at all, for students of either race, between the friendliness of interracial contact in grade school and either effort or grades in high school.[9]

With respect to achievement scores, the correlations between black achievement scores and friendly contact with Whites in grade school are very small, not statistically significant, and differ in direction for Freshmen and Sophomores. Among white students also--both Freshmen and Sophomores--achievement scores in high school are not significantly related to amount of friendly contact reported with Blacks in grade school.

Overall, these results indicate, that just as the racial composition of grade school classes had little effect on academic outcomes in high school, so, too, the friendliness of such contact in grade school had little impact, among students of either race.

Interracial Contact and Subjective Reactions. The data presented above indicate that the amount and nature of interracial contact generally had little effect on effort, grades, or achievement scores. Why is this so? Is it that interracial contact does not have the positive effects on students' (particularly black students') academic goals, academic expectancies, and feelings (anger, fear) that some have hypothesized? Or is it that these subjective variables do not, in fact, have much impact on academic achievement?

We prsent next some data relevant to these questions. Table 3 shows the correlations between academic outcomes and a number of relevant subjective reactions by students (goals, aspirations, expectancies and interracial feelings). Table 4 presents the correlations between these subjective reactions and interracial contact variables.[10]

(Insert Tables 3 and 4 about here)

For black students, the results of Table 3 indicate that higher educational aspirations are positively, though modestly, associated with grades (.27) and with achievement scores (.30). Also, giving greater importance to academic goals is positively correlated with academic effort (.25) and with current grades (.26). Apart from these modest associations, the correlations between subjective factors and academic outcomes are all quite small (always under .20, often close to zero) for Blacks. Thus, the academic outcomes have little association with occupational aspirations, perceived chances to fulfill occupational or educational aspirations, anger at white schoolmates or fear of white schoolmates.

While educational aspirations and valuing academic goals are positively correlated with better academic outcomes among Blacks, Table 4 shows that these subjective

variables have little relation to the amount or nature of contact with Whites. While there are a few statistically significant correlations in expected directions, these are all quite small (the largest is .15). In addition, none of the variables reflecting contact with Whites is much related to Blacks' perception of their chances to fulfill their occupational or educational aspirations or to fear of Whites. Anger at white classmates is significantly related to having more Whites in high school classes, less friendly contacts with Whites and more unfriendly contact with Whites, but these correlations are all quite small (below .20).

Among Whites, educational aspirations, occupational aspirations, and the value of academic goals have small to moderate positive correlations (from .23 to .54) with the three academic outcomes. In general, perceived chances fo fulfill occupational and educational aspirations are only very slightly correlated with academic outcomes, although there is a small positive correlation (.28) between current grades and perceived educational chances. Anger at, and fear of, black schoolmates have very low correlations with the academic outcomes for Whites.

While aspirations and the value of academic goals were related to academic outcomes among Whites, these subjective variables were related very little to contact with Blacks (see Table 4). Nor were Whites' perceived chances to fulfill their educational and occupational aspirations related much to their interracial contact. White students who had more unfriendly contacts with black schoolmates were more likely to be angry at, and fearful of the Blacks, and friendly contact with Blacks was somewhat related to less fear of Blacks. However, as we have noted, neither anger nor fear of Blacks was related to academic outcomes for Whites.

To summarize the key results of Tables 3 and 4, they show that:

1) Academic outcomes were not related appreciably to students' expectancies about reaching educational or occupational goals or to their negative emotions toward

other-race students. Neither was interracial contact much related to these expectancies or emotions.[11]

2) Academic outcomes were positively correlated with aspirations and with valuing academic goals among students of both races--though more strongly for Whites. However, such aspirations and academic values had very little relation to the opportunity for, or nature of, interracial contact.[12]

Conclusions

The results of this study are consistent with those of most previous studies in showing that racial mixing of students--even when it occurs at the classroom level--had only small effects on the academic performance of black students. The smallness of these associations is especially apparent when compared with the larger associations which other variables, especially IQ, had with academic outcomes. However, though the associations of racial composition and academic outcomes were small, mostly non-linear, and not consistent across academic outcomes, the overall results do provide some support for the proposition that black students do better in classes with greater proportions of Whites. Specifically, as the proportion of white students in classes rose, achievement scores rose somewhat among black Freshmen (though not among Sophomores). And effort among black students generally was somewhat lower in majority black classrooms. It also is true that black students' grades generally were higher in majority-black than majority-white classes, but this result probably reflects the tougher competition in mostly-white classes.[13]

The results also indicate that the academic performance of white students tends to be somewhat poorer in classes which are heavily black. In general, effort among Whites was relatively low in classes which were more than 40 percent black; grades for Whites were lower than average in classes which were more than 60 percent black; and achievement scores for Whites tended to be lower at the mostly-black end of the continuum. While some previous research has found little or no effect of racial mixing

on white students' academic achievement (St. John, 1975:34-36), St. John and Lewis (1971) have reported that white children who had attended majority-black schools had achievement test scores considerably below those who had attended majority-white schools, even with other important variables controlled. The present results are consistent with those of St. John and Lewis in indicating that attending majority-black classes may have some negative effects on the academic performance of Whites. However, the present results also indicate that only a small amount of the total variation in white students' performance can be explained by the racial composition of their classes. Other factors--including IQ, parents' education, and students' evaluation of teachers--explain more of the variance in white students' performance.

Why did students of both races tend to do better (with respect to effort and achievement scores) in majority-white classes? Since these associations are found even after ability group and program are controlled, they do not seem to be due to the tendency for low ability group and non-Academic program students to be in more heavily black classes. The evidence indicates also that it is not because racial composition has much effect on students' expressed academic goals, their educational and occupation aspirations, or their expectations of reaching their goals. It may be that the effect of racial composition is due to a) administrators and teachers having lower standards of effort and performance in majority-black classes; and/or b) the possible existence of a more lax norm of academic behavior among the majority of students in predominantly black classes [Blacks were more likely than Whites to report being late to class, cutting class, being absent from class, and being called for disciplinary "conferences" (Patchen, et al., 1976)]

While the results show some associations between a student's academic performance in high school and the racial composition of his high school classes, there was generally little association between these outcomes and the racial composition of his grade school classes. It should be noted that our measure of the racial composition of grade

school classes is less objective, less precise, and more complex (averaging different schools) than is our measure of high school classes. However, if there was a substantial effect of grade school racial composition on later academic performance, we would expect it to be picked up even by our imperfect measures. Also, the data indicate little association between the racial composition of grade school classes and grade school IQ scores, which may be seen, in part, as reflecting early learning. It appears, then, that the academic effects of racial composition of grade school classes were minimal.

The results also indicate that, contrary to the hypothesis advanced by some writers (see above), the nature of interracial contact--either in grade school or high school --had almost no effect on academic outcomes in high school. These findings differ somewhat from those of Lewis and St. John (1974) with regard to the relationship between black students' grades and their social relations with Whites. While they found popularity with Whites and more early contact with Whites (for girls) to be associated with higher black grades, we found no associations between black grades and friendly contact with Whites in high school or in grade school. Since the two studies differ in a variety of ways, including the grade level of students and the measures of social relations, it is hard to know what accounts for these different findings. However, both studies agree in finding no significant association between standardized achievement scores of black students and their social relations with white schoolmates. The studies tend to agree also in finding little association between academic outcomes for Whites and their social relations with black classmates.

A major reason for the lack of association found here between the friendliness of interracial contact and academic outcomes appears to be that the psychological variables postulated by I. Katz as intervening variables do not operate in that fashion. First, the hypothesis that more friendly interracial contact leads to greater acceptance of academic values or goals was not supported. One probable part of the explanation is

that the expressed values and aspirations of our total sample of Blacks were just as academically oriented as those of our total sample of Whites (Patchen, 1975). Therefore, friendly association with the other race would not involve exposure to different expressed values. However, the behavior of Whites tended to be more academically oriented and so we may wonder why friendly interracial contact did not lead Blacks to adopt behaviors (such as those contained in the effort measure) more close to the white statistical norm. It may be that white students did not exert pressures on students (of either race, or on Blacks particularly) who deviated from the usual standards of academic behavior. Students may have seen such pressure as the business of teachers, not themselves. Similarly, white students who had much friendly contact with Blacks may not have been subject to any pressures to adopt non-academic behavior since most Blacks did not verbally endorse such behavior as correct.

The results also do not support the Katz hypothesis that unfriendly interracial contact will reduce academic achievement because it generates negative emotions which interfere with learning. While less unfriendly interracial contact was associated somewhat with less anger at other-race schoolmates, such anger (or fear) was not related to any of the academic outcomes. It may be that negative affects of anger at, or fear of, other-race schoolmates simply did not occur often enough to interfere noticeably with academic performance. Yet interracial frictions, and fears, were fairly frequent in these schools (Patchen and Davidson, 1973). It seems unlikely that a much higher general level of anger and/or fear would prevail in many schools. Thus, these results suggest that the nature of interracial contacts is unlikely to affect academic outcomes via an impact on interracial feelings.

The results also indicate that the friendliness or unfriendliness of interracial contact has little association with students' expectancies regarding their chances to fulfill their educational and occupational aspirations. However, our measures of expectancies refer to the student's own aspirations, and it may be that interracial

contact affects black students' perceived chance of fulfilling their aspirations only when these aspirations are high. Investigation of the effect of friendly interaction on expectations of success, for students with different levels of aspirations, would be desirable in future research.

Although the present analyses show little overall association between interracial contact--especially the friendlines of such contact--and academic performance, it may be that these associations are stronger under specified conditions. Further analyses, not reported in detail here, indicate that the associations between opportunity for, or friendliness of, interracial contacts and academic outcomes are not affected by the level of parents' education; opportunity for contact in grade school; amount of friendly interracial contact in grade school; sex; high school program; or parents' interest in student's education and career. Nor does the effect of the friendliness of interracial contact vary with the racial composition of classes, or vice-versa.[14,15] However, it may be that the interracial contact-performance association is affected by other conditions. For example, a black student's academic performance may be positively related to friendly contact with Whites only when the Whites have especially strong pro-academic norms, or only in certain kinds of schools (e.g., schools whose students come from a high average socio-economic level).

Despite these necessary qualifications, the results reported here do have some important practical implications. They suggest that the small and inconsistent effects which interracial contact has been found to have on black students' academic performance are not likely, in general, to be enhanced by increasing the friendliness of that contact. In fact, the results suggest that the racial composition of classes--while not having large effects--may be more important than the friendliness or unfriendliness of contact between the races.

This is not to say that promoting interracial contact in the schools--and especially friendly interracial contact--is unimportant. Friendly interracial contact

in schools is valuable in itself and, as other data from our study show, is associated with positive changes in opinions of the other race (Patchen, 1975). Such positive behavior and attitudes may carry over into later life (Bradburn, 1971) and thus be important for racial harmony in the larger society. Racial integration in schools may also have other valuable outcomes--for example, preparing both races for the kinds of practical interactions which, increasingly, will be necessary in integrated work organizations. The present data do suggest, however, that we should not expect friendly interracial contacts to produce major academic benefits as well. Realistic efforts to improve student achievement probably should focus, instead, on early learning experiences that influence academic abilities (as reflected by IQ scores) and on school programs and teacher methods that influence motivation and learning.

FOOTNOTES

* The study from which these data were drawn was supported by the U.S. Office of Education (Project 561) and the National Science Foundation (GS 33357).

1. According to the theory of achievement motivation (Atkinson, 1964), tendencies toward approaching achievement would be at a maximum where the expectancy of success is close to .5.

2. Because of the combination of an objective source, a wide range of racial proportions covered, and a large N of students, these data are much better than most other data on racial proportions which have been reported.

3. Other analyses (Patchen, 1975) indicate that, being in the academic program contributed most to academic performance; differences in contributions among other programs were much smaller.

4. While we studied the linearity of relations between each interracial contact variable and each academic outcome, we did not assess the linearity of associations between the variables shown in Tables 3 and 4. The large number of relations (112) involved would have made this task massive and we judged information based on linear correlations among these variables to be sufficient for our present purposes.

5. The upturn in effort among black students in almost totally (90-100%) black classes may reflect special conditions (perhaps stricter discipline) in the all-black school, which most of the students in this category attended.

6. The relations between friendly contact and each academic outcome, holding relevant control variables constant, also were studied by multiple classification analysis, in case a relationship became non-linear when controls were applied. However, no significant effects of friendly interracial contact were found for either race.

7. A measure of interracial friendship generally has no higher zero-order correlations with academic outcomes than does the measure of friendly contact used in these analyses.

For Blacks, interracial friendship has a slightly higher correlation with grades (-.12) but not noticeably higher correlations with effort or achievement scores.

8. One exception to linearity is that, among Whites, achievement scores fall off only when students reach a fairly high level of unfriendly interracial contact.

9. These results do not show a deviation foom linearity in predicting to grades. Among students of both races, those in the most negative category of interracial contact in grade school had lower high school grades than other students. However, when average grades are adjusted for the effects of IQ, evaluation of high school teachers, and unfriendly interaction with same-race high school peers, differences become non-significant for Whites and, for Blacks, there is a tendency (barely reaching statistical significance) for those who had neutral interracial contacts in grade school to have the highest grades.

10. In presenting these data, we make no assumptions about the causal direction of the associations. Our interest, rather, is in their magnitude.

11. It is possible that a composite variable reflecting the product of valuing academic goals and the expectancy that academic effort would lead to reaching such goals would be somewhat more highly related to academic outcomes. The present data do not provide information about students' expectancies that effort in school would lead to their particular goals.

12. The relations between aspirations and interracial contact remains very tiny when other relevant variables are controlled (Patchen, 1975).

13. We place greater emphasis on achievement scores than on grades, as an indicator of performance, since this outcome is not as subject as grades to variations in standards among teachers and schools.

14. However, Lewis (1971) found that a lack of social acceptance has a depressing effect on the academic achievement of black students when they are in majority-white classrooms.

Additional Footnotes

1A. Every nth student was selected from class lists, the value of n varying with class size. Samples of this type and size are essentially equivalent to random samples.

1B. Of those who did not acceptably complete questionnaires, the great majority (about 22% of Blacks and about 16% of whites in the original sample) did not appear at the sessions because of absence, conflicting schedules, or other reasons. About another 3% of blacks and another 1.5% of whites in the original sample were omitted after checking procedures indicated they had filled out questionnaires without adequate understanding or in a capricious manner.

1C. Response categories regarding homework were number of hours spent daily, ranging from "less than ½ hour" to "about 3 hours or more." For items concerning lateness, missing classes, etc., response categories ranged from "almost every day" to "never".

15. Additional analyses of variance show that when achievement scores are related to 1) class racial proportion; 2) friendliness of interracial contact; and 3) IQ, there are no significant two-way or three-way interactions among these three variables, for students of either race. Also, there are no significant interactions between 1) IQ and friendly contact or 2) IQ and opportunity for contact, as these variables relate to student effort. Among blacks, there is a tendency for greater opportunity for interracial contact to be related to lower grades among those with the lowest IQs and to higher grades among those with the highest IQs.

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Table 1

Correlations Between Academic Performance Variables, Interracial Contact Variables, and Variables Used as Controls*

(Data for Blacks outside parentheses; for Whites inside parentheses)

Control Variables	Effort	Grades	Achiev. Scores Fresh.	Achiev. Scores Sophs.	% Blacks H.S. Classes	Friendly Contact H.S.	Unfriendly Contact H.S.	Proportion Other Race Grade Sch.	Friendly Contact Grade Sch.
I.Q. Score	+.19	.28	.73	.71	-.06	.12	-.11	-.03	-.03
	(+.14)	(.47)	(.84)	(.82)	(-.21)	(.12)	(-.06)	(-.05)	(-.07)
Ability Group Score	+.20	.25	.56	.61	-.16	.07	-.13	-.03	-.02
	(+.21)	(.41)	(.66)	(.67)	(-.19)	(.07)	(-.10)	(-.03)	(-.02)
Academic Program (dummy)	+.21	.27	.44	.43	.10	.11	-.09	-.05	.00
	(+.22)	(.44)	(.57)	(.64)	(-.10)	(.15)	(-.05)	(-.03)	(.01)
Evaluation Teachers	+.19	.26	.18	.10	.02	.15	-.15	-.02	.15
	(+.30)	(.34)	(.18)	(.22)	(-.13)	(-.02)	(-.22)	(-.02)	(.07)
Partic. Activities	+.17	.25	.20	.23	-.03	.31	.01	.02	.02
	(+.13)	(.39)	(.36)	(.42)	(-.14)	(.25)	(-.04)	(-.05)	(-.01)
Sex	+.08	.10	-.23	-.06	-.01	-.11	-.19	-.01	.02
	(+.26)	(.19)	(-.09)	(-.11)	(-.02)	(-.03)	(-.28)	(.04)	(.08)
Parents' Educat.	+.10	.02	.16	.15	-.06	.11	-.04	.03	.03
	(+.05)	(.27)	(.33)	(.55)	(.00)	(.17)	(-.02)	(-.08)	(-.03)
Unfriendliness toward Own Race	-.17	-.16	.01	-.15	.00	.08	.33	.03	-.03
	(-.17)	(-.16)	(-.02)	(.07)	(.06)	(.14)	(.29)	(.02)	(.02)

* Correlations, except those in columns 3 and 4, are based on an average N of about 1700 black students and about 1800 white students (N varies somewhat with the number of valid scores for each pair of variables). With Ns of about this size, correlations of .06 are significant at .05 level. Ns for correlations in columns 3 and 4 are about 250 for black students and about 300 for white students. With Ns of about this size, correlations of .12 are significant at .05 level.

Table 2

Correlations and Partial Correlations Between Interracial Contact Variables and Academic Performance Variables

A. Friendly Interracial Contact, High School	Effort		Grades		Achievement Scores			
					Freshmen		Sophomores	
	Blacks	Whites	Blacks	Whites	Blacks	Whites	Blacks	Whites
Total Sample r	.07*	.03	.04	.05	.08	.11	.03	.15***
Subsample r[a]	.10***	.03	.04	.03	.07	.13*	.08	.22***
Controlling for:								
A. IQ	.08**	--	.01	-.03	.08	.08	.03	-.02
B. Evaluat. Teachers	.07*	--	-.01	--	.08	--	--	--
C. Partic. Activities	.05	.00	-.03	-.07**	.04	.13*	.05	.13*
D. Academic Program	--	.00	--	-.02	.02	--	.06	--
E. Parents' Educ.	--	--	--	.00	--	.08	--	.11
F. Ability Group	--	--	--	.01	--	.01	--	.24***
G. Sex	--	--	--	--	.07	--	--	--
A + B + C	.03	--	-.08**	--	--	--	--	--
A + C + D + E + F	--	--	--	-.09**	--	--	--	--
A + B + C + D + G	--	--	--	--	.03	--	--	--
A + C + D	--	--	--	--	--	--	.03	--
A + C + E + F	--	--	--	--	--	.02	--	-.03
N, Total[b]	1350	1575	1400	1610	214	265	200	259
N, Subsample	922	1338	987	997	154	219	153	204

[a] Subsamples are those students for whom there is valid data on all variables used in partial correlation analysis.

[b] Total Ns are close approximation based on Ns for each of two indices involved in each computed correlation.

*significant at .05 level; **significant at .01 level; ***significant at .001 level.

Table 2 (cont.)

B. Unfriendly Interracial Contact, High School	Effort		Grades		Achievement Scores			
					Freshmen		Sophomores	
	Blacks	Whites	Blacks	Whites	Blacks	Whites	Blacks	Whites
Total Sample	-.09***	-.10***	-.16***	-.14***	-.08	-.12*	-.19**	-.14*
Subsample	-.10***	-.10***	-.15***	-.13***	-.09	-.13*	-.17*	-.11*
Controlling for:								
A. IQ	-.07*	--	-.12***	--	-.08	.00	-.10	-.12*
B. Unfriendly, Own Race	-.05	-.06*	-.12***	-.09***	--	--	--	--
C. Ability Group	-.07*	-.09***	-.12***	-.10***	-.03	-.02	-.07	-.04
D. Evaluation Teachers	-.07**	-.03	-.11***	-.05*	-.07	-.10	--	-.05
E. Sex (high score=fem.)	--	-.03	--	-.07**	-.15*	--	--	--
A + B + C + D	.00	--	-.05	--	--	--	--	--
A + B + C + E	--	--	--	--	-.09	--	--	--
A + B	--	--	--	--	--	--	-.06	--
B + C + D + E	--	.05*	--	.02	--	--	--	--
A + C + D	--	--	--	--	--	.07	--	-.07
N, Total Sample	1450	1650	1500	1700	225	280	205	265
N, Subsample	995	1468	997	1454	20[illegible]	262	181	232
C. Proportion Other Race in Grade School Classes								
Total Sample	-.01	-.02	-.09***	-.03	.05	-.15**	-.12*	.00
Controlling for:								
Parents' Educ.	--	--	--	-.01	--	-.14**	--	.09*
N, Total Sample	1448	1939	1557	2006	236	304	241	339
N, Subsample	--	--	--	1823	--	271	--	305
D. Friendliness Interracial Contact, Grade School								
Total Sample	.04	.03	-.01	-.02	-.10	.02	.08	.04
N	1442	1872	1557	1947	233	297	249	331

Table 3

Correlations Between Academic Outcomes and Students' Goals, Aspirations, Expectancies, and Emotions[a]

(Black above; White in parentheses)

	Effort	Current Grades	Achievement Scores
Occupation Aspiration	.03	.12	.13
	(.23)	(.33)	(.42)
Education Aspiration	.18	.27	.30
	(.27)	(.43)	(.54)
Importance Academic Goals	.25	.26	.15
	(.38)	(.35)	(.23)
Perceived Chance Reach Occupation Goal	.08	.07	.05
	(.06)	(.14)	(.09)
Perceived Chance Reach Education Goal	.09	.17	.03
	(.14)	(.28)	(.18)
Relative Anger at Other Race	-.02	-.01	-.03
	(.04)	(-.03)	(-.05)
Relative Fear of Other Race	-.02	-.02	-.02
	(-.03)	(.10)	(.01)

[a] Correlations of effort and grades with other variables are based on Ns of about 1700 Blacks and about 1800 Whites. Correlations involving achievement scores are based on about 250 Blacks and about 300 Whites. (N varies somewhat with the valid scores for each pair of variables.)

Table 4

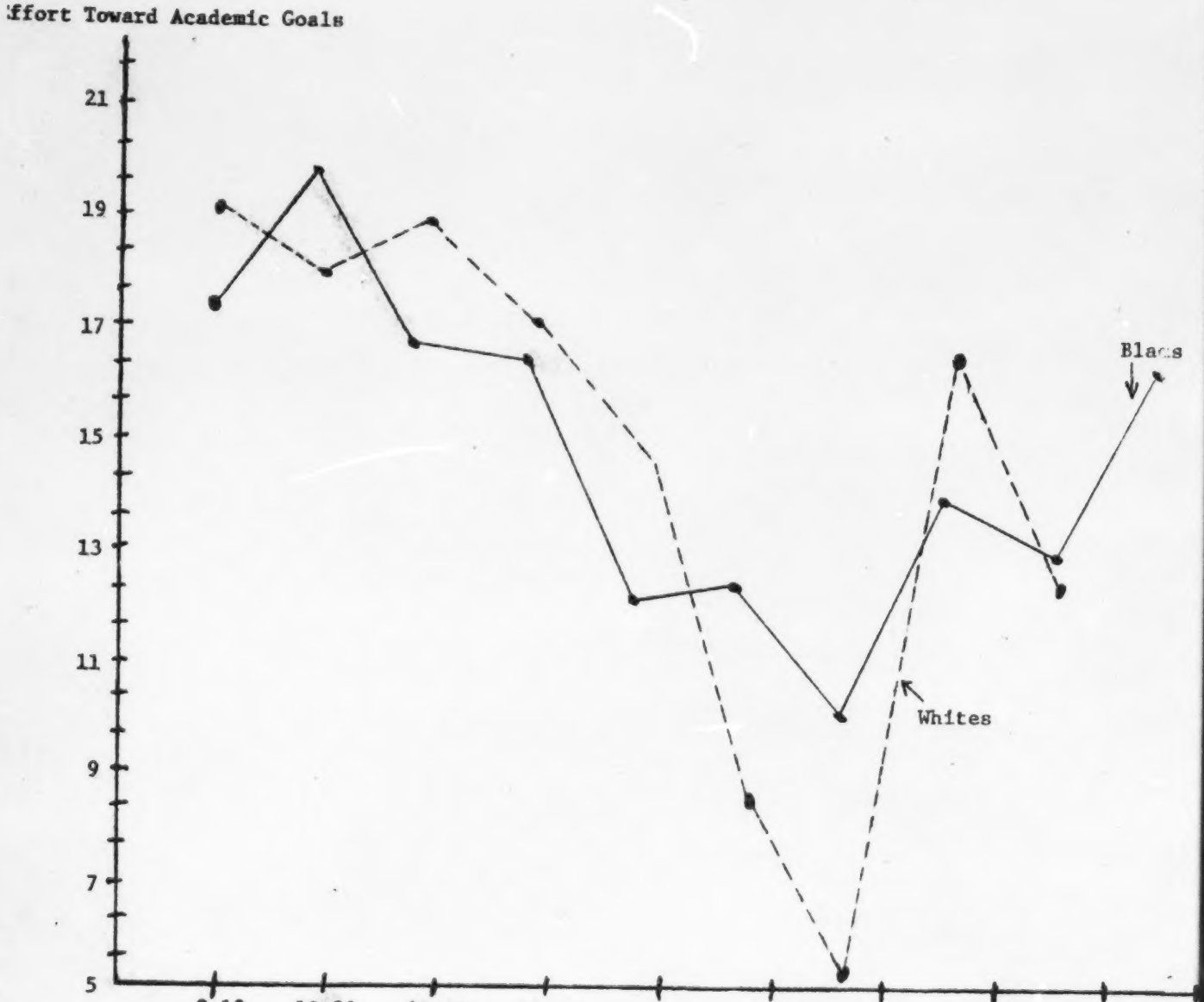
Correlations Between Interracial Contact and Students' Goals, Aspirations, Expectancies and Feelings[a]

(Black data above; Whites in parentheses)

	Mean % Black H.S. Classes	Friendly Contact, H.S.	Unfriendly Contact, H.S.	Proportion Other Race Grade Sch.	Friendliness Contact, Grade Sch.
Occupat. Aspirat.	-.06	.09	-.03	.01	.02
	(-.11)	(.10)	(-.08)	(-.02)	(-.01)
Educat. Aspirat.	-.02	.15	-.06	-.02	.06
	(-.14)	(.14)	(-.02)	(-.05)	(-.02)
Importance Academic Goals	-.06	.03	-.15	-.01	.09
	(-.11)	(.03)	(.01)	(-.02)	(.03)
Perc. Chance Reach Occup. Goal	.01	.09	.01	-.06	.02
	(.00)	(.06)	(.03)	(.04)	(.00)
Perc. Chance Reach Educat. Goal	.00	.06	-.03	-.01	.02
	(-.06)	(.05)	(-.06)	(-.01)	(.01)
Relative Anger at Other Race	-.17	-.10	.18	-.01	-.11
	(-.02)	(-.20)	(.36)	(-.04)	(-.13)
Relative Fear of Other Race	-.07	.03	.08	.06	-.01
	(.04)	(-.08)	(.24)	(.00)	(-.03)

[a]Correlations of effort and grades with other variables are based on Ns of about 1700 Blacks and about 1800 Whites. Correlations involving achievement scores are based on about 250 Blacks and about 300 Whites. (N varies somewhat with the valid scores for each pair of variables.)

Mean Percent of Blacks in Current-Semester Classes,
As Related to Academic Effort in Current-Semester,
Adjusted for Effects of IQ, Ability Group, and Program

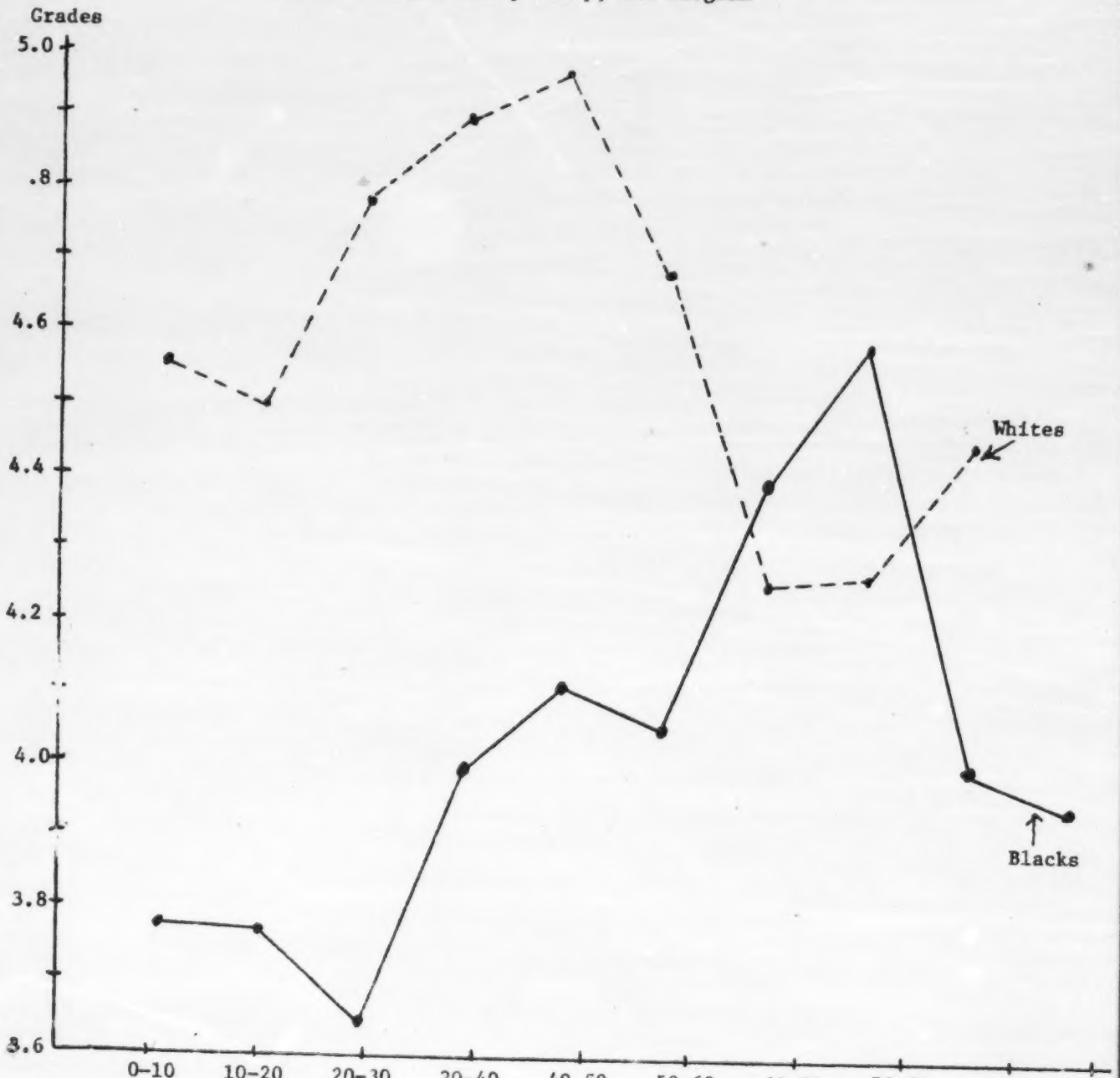


N, Blacks	25	200	232	254	306	240	142	93	106	104
N, Whites	439	402	296	302	248	120	60	51	25	(6)

	F*	p	Eta**	Beta***
Blacks	2.2	.02	.18	.13
Whites	4.2	.001	.20	.16

*F test shows significance of % black with effect of other predictors controlled. **Eta is correlation ratio, without adjustment for other predictors. ***Beta is correlation ratio after adjustment for other predictors (see Andrews, et al., 1969).

Mean Percent of Blacks in Current-Semester Classes, As Related to Current-Semester Grades, Adjusted for Effects of IQ, Ability Group, and Program



MEAN PERCENT BLACK IN CURRENT CLASSES

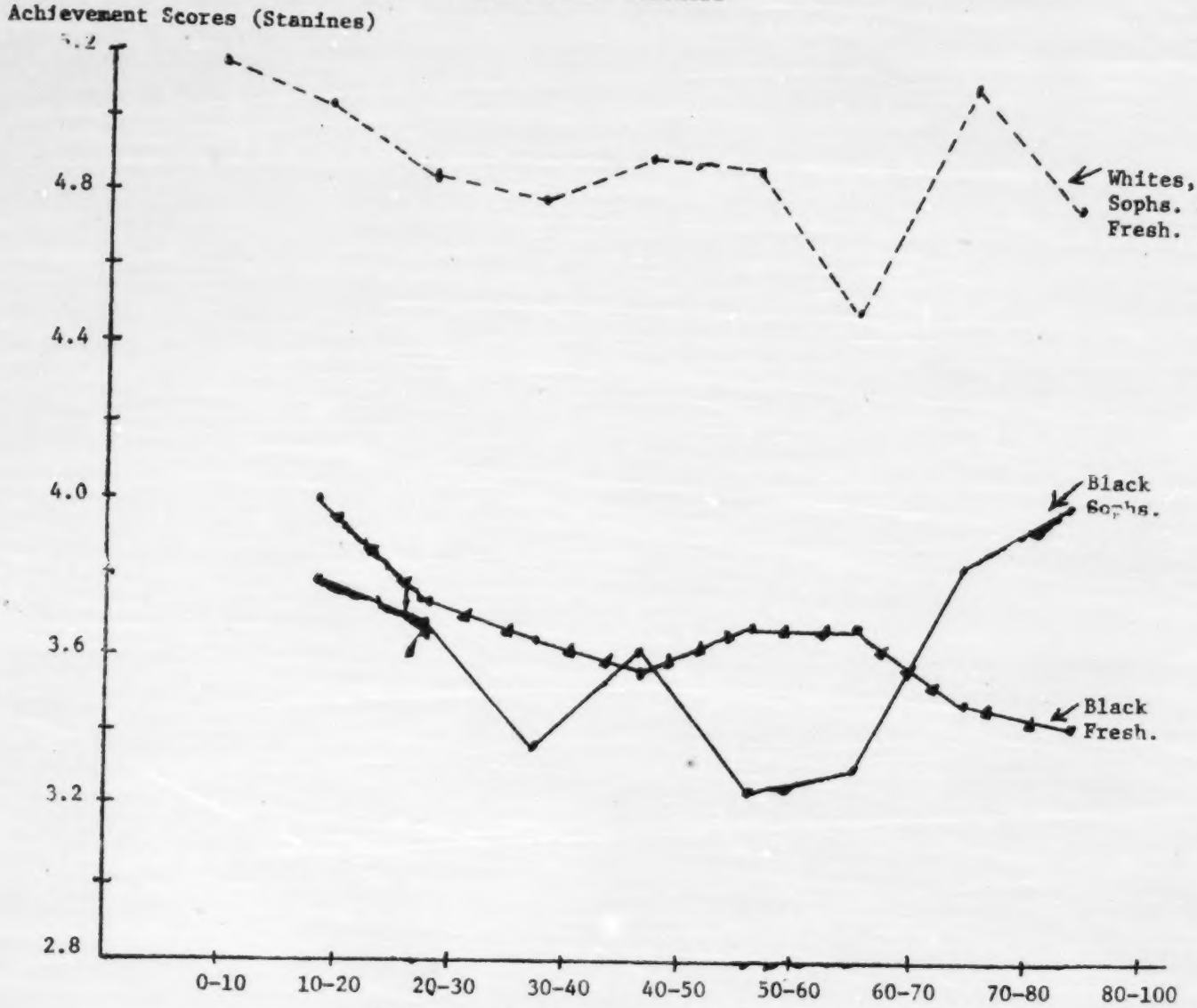
N, Blacks	28	231	282	303	358	304	189	128	134	137
N, Whites	470	452	327	362	294	150	85	57	34	(6)

	F*	p	Eta**	Beta***
Blacks	4.0	.001	.17	.17
Whites	4.2	.001	.20	.16

*F test shows significance of % black with effect of other predictors controlled. **Eta is correlation ratio, without adjustment for other predictors. ***Beta is correlation ratio after adjustment for other predictors (see Andrews, et al., 1969).

FIGURE 3

Mean Percent of Blacks in Current-Semester Classes,
As Related to Achievement Test Scores Toward End of Sophomore Year,
Adjusted for Effects of IQ, Ability Group, Program, and (for Whites)
Evaluation of Teachers



N, Black Fresh.	(2)	23	39	24	36	31	14	18	15
N, Black Sophs.	(3)	45	34	39	52	31	19	4	33
N, Whites	136	158	107	105	85	31	16	19	9

	F*	p	Eta**	Beta***
Black Fresh.	1.7	.09	.39	.17
Black Sophs.	1.8	.08	.56	.20
Whites	2.5	.01	.40	.10

*F test shows significance of % black with effect of other predictors controlled. **Eta is correlation ratio, without adjustment for other predictors. ***Beta is correlation ratio after adjustment for other predictors (see Andrews, et al., 1969).